

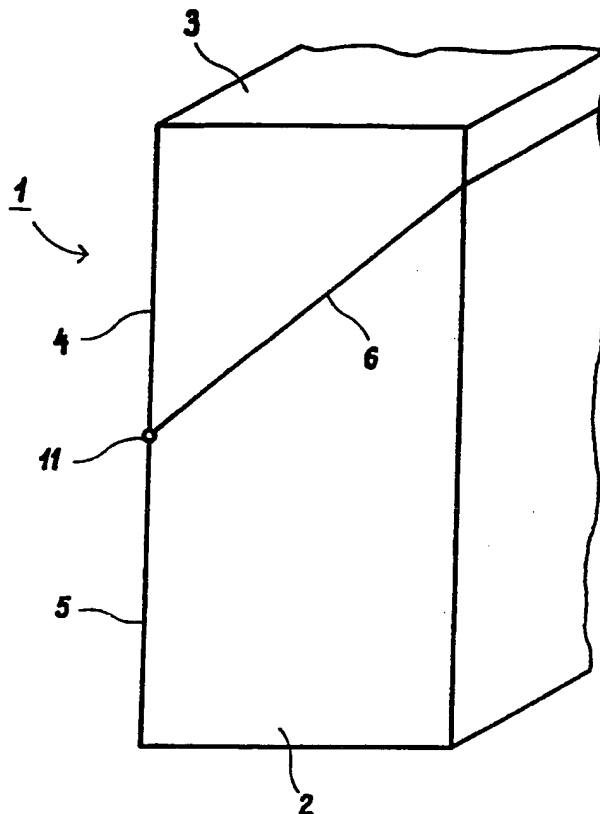


INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/DK90/00246 (22) International Filing Date: 27 September 1990 (27.09.90) (30) Priority data: 4783/89 28 September 1989 (28.09.89) DK (71) Applicant (for all designated States except US): LEGO A/S [DK/DK]; Aastvej 1, DK-7190 Billund (DK). (72) Inventor; and (75) Inventor/Applicant (for US only) : RYAA, Jan [DK/DK]; Kærvej 423, DK-7190 Billund (DK). (74) Agent: HOFMAN-BANG & BOUTARD A/S; Adelgade 15, DK-1304 Copenhagen K (DK).		(81) Designated States: AT (European patent), BE (European patent), CH (European patent), DE (European patent)*, DK (European patent), ES (European patent), FR (European patent), GB (European patent), IT (European patent), LU (European patent), NL (European patent), SE (European patent), US. Published <i>With international search report.</i>

(54) Title: A PACKAGE FOR THE STORAGE AS WELL AS BUILDING OF TOY STRUCTURES**(57) Abstract**

A package for the storage, in particular for the building of toy structures, which has a bottom part (2) and a cover part (3) hinged to the bottom part along a side edge in parallel with the bottom. In order that the package may serve as a construction element for connection with other toy components, in addition to serving as a storage unit, the hinge (17) of the package is disposed midway between the bottom face and the top face of the cover in the closed position of the cover, and the bottom part and the cover adjoin each other in a plane (6) which is parallel with the hinge and forms an acute angle with the bottom face of the package.



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A package for the storage as well as building of toy structures

5 The invention concerns a package in the form of a box having a first part with a bottom and a second part in the form of a cover hinged to the first part along a side edge which is parallel with the bottom and is disposed midway between the top of the cover in the closed position of the
10 cover and the bottom.

A box or package of the above-mentioned type is known e.g. from the US Patent Specification 3 164 284 which just serves as a storage unit.

15 The object of the present invention is to provide a package in particular for toys, which, in addition to serving as a storage unit, can also serve as a constructive element in connection with other toy components.

20 This object is achieved by providing a package as stated in the characterizing portion of claim 1. In such a structure of a toy package the storage and transport purpose is advantageously combined with various possible applications in the open position of the package, e.g. in that the box
25 can be transformed in a simple manner to a toy component with an inclined building or play face. When opening the cover of the box so that it is swung down to a position 180° apart from closed position, the rear side face of the
30 cover engages the rear side face of the bottom while the top face of the cover will be flush with the bottom face of the box and form together with the latter a very stable support of the box in a situation of use or play.

35 In addition to the mentioned optimum stability and good accessibility, this structure entails that the cover, in

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the open state, may e.g. be used for temporary storage or sorting, and that the common, inclined plane of the bottom and the cover may be used e.g. for mounting a plate object for various purposes. The surface inclination is particularly expedient as a drawing or writing face and is also useful for the mounting of a display plate.

The invention also concerns a plate for cooperation with the package described above, said plate being constructed as stated in the characterizing portion of claim 3. The plate may hereby serve as a support for various play activities, which will be explained more fully below with reference to the drawing, in which

fig. 1 schematically shows a first embodiment of the package of the invention,

fig. 2 shows the package of fig. 1 in an open position,

fig. 3 is a front view of the open package of fig. 2,

figs. 4 and 5 show a modified embodiment of the package,

fig. 6 shows a preferred embodiment of the package, while

figs. 7 and 8 show the package of fig. 6 in an open position, involving additional play possibilities with and without a plate, respectively, for mounting on the open package.

Fig. 1 shows a package 1 in the form of a box construction for toy use and is shown in its closed state. The box consists of a lower part 2 and a cover 3 hinged to the lower part at one of the long side edges of the box, in parallel with the bottom. Hinging is also provided midway between the bottom of the lower part and the top of the cover, so

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that the rear side faces 4 and 5 of the cover will engage each other when the cover is in fully opened position.

5 It also appears from fig. 1 that the lower part 2 of the box and the cover 3, in the position shown in fig. 1, adjoin each other in an inclined plane 6. It will be seen that, when the box is in its open position shown in fig. 2, a support plane will be formed, defined by the open rim portions of the cover and the lower part.

10 It will moreover be seen in fig. 2 how the top face of the cover 3, after having been fully opened, is flush with the bottom face of the lower part, so that the box has optimum support against a plane base in said position of use.

15 Further, fig. 2 shows the open box structure mounted with a plate object 7, which is removably fitted via hook means 8 forming an engagement with the rim portions of the box in the shown embodiment. This results in an advantageous
20 inclined working or play face which is expedient as a drawing or writing base or as a base plate for the building of spatial figures by means of interconnectible toy elements.

25 In the version shown in the figure the plate object 7 protrudes somewhat from the lower long side rim of the box so that the lower edge of the plate object is flush with the bottom of the lower part and the top of the cover, whereby the effective play face of the plate object maintains its
30 stability.

Fig. 3 shows a preferred embodiment of the box in unfolded position and with mounted plate object 9 having a step-shaped cross-section. Here, each step face may advantageously be provided with coupling means for coupling with
35 various building blocks, e.g. with letter or figure blocks

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for the building of motifs or words and sentences.

5 The use of such a step-shaped plate will be expedient in particular in the cases where the toy structure is used for display or educational purposes, such as teaching of small children since the combined motifs or words/sentences can of course be observed at a relatively great distance from the box.

10 The plate object 9 is so dimensioned in this embodiment that it just covers the open face of the lower part, entailing that the open space 10 of the cover may be used as a storage space for the mentioned building blocks.

15 It will thus be apparent how the mentioned structure can advantageously be used as a storage box for the plate objects as well as the other toy components, and it will be appreciated that the possible uses of the box, with various shapes and sizes of plate objects, vary over a great
20 range from play to more serious purposes.

In the embodiment shown in figs. 1-3, the bottom face is perpendicular to the vertical side faces, which, however, is not a necessity for the achievement of an inclined
25 working face in the open position of the box. This appears from the schematically shown embodiment in figs. 4 and 5 in closed and open position, respectively. In this embodiment, the box will in the open position stand on the face indicated by 12, the hinge being provided along the dotted
30 line 13. This embodiment is also shown with locking means cooperating in pairs, 14, 15 and 16, 17, respectively, in the form of a hole 14, 16 and a protruding pin 15, 17, respectively, for snaplock reception in a hole. The locking means are disposed symmetrically about the hinge axis 13
35 so that they can releasibly engage in the closed position shown in fig. 5, thereby providing a more stable support

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for a plate object.

Fig. 6 shows a preferred embodiment of a package with a cover having four cylindrical projections 18, whose height is so selected that the projections protrude and are flush with the bottom of the package when the cover is fully opened about the hinge axis 19.

An application of the box shown in fig. 6 appears from fig. 7, where the box serves as a storage box for books or sheets 20, and where an opened book may be placed in the open cover. The illustration shown in fig. 7 indicates a building guide which a child may have standing in opened position when it builds models by means of interconnectible toy elements, e.g. of the type commercially available under the trade mark LEGO.

In the embodiment shown in fig. 8, the box is used as a support for an inclined building base for interconnectible toy elements. The plate is moulded and decorated with e.g. mountain formations 21, but also comprises a plurality of plane areas 22 provided with coupling studs 23 for cooperation with the interconnectible blocks 24.

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P a t e n t C l a i m s :

1. A package in the form of a box having a first part
5 with a bottom and a second part in the form of a cover
which is hinged to the first part along a side edge which
is parallel with the bottom and is disposed midway between
the top of the cover in the closed position of the cover
and the bottom, c h a r a c t e r i z e d in that the
10 first part and the second part adjoin each other in a
plane which is parallel with the hinge in the closed posi-
tion of the box and forms an acute angle with the bottom
of the box.
- 15 2. A package according to claim 1, c h a r a c t e r -
i z e d in that coupling means, cooperating in pairs, are
provided on the first part and the second part, respec-
tively, on the hinge side of the box where coupling means
in pairs are disposed symmetrically with respect to the
20 axis of the hinge.
3. A plate object for use in connection with a package
according to claim 1 or 2, c h a r a c t e r i z e d in
that the plate is adapted for releasable mounting on the
25 package via guide means so that the plate is positioned
for engagement with the open rim of the upper and lower
parts in the open position of the package.
- 30 4. A plate object according to claim 3, c h a r a c -
t e r i z e d in that the plate object is cross-section-
nally step-shaped, the dimensioning of the step depth and
the step height being provided in accordance with the in-
clined plane formed by the upper and lower part.
- 35 5. A plate object according to claims 3-4, c h a r a c -
t e r i z e d in that the upper side of the plate object

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is provided with coupling means for interconnectible toy elements.

5 6. A plate object according to claim 3, c h a r a c -
t e r i z e d in that the plate is provided as a moulded,
decorated base plate comprising coupling means for inter-
connectible toy elements.

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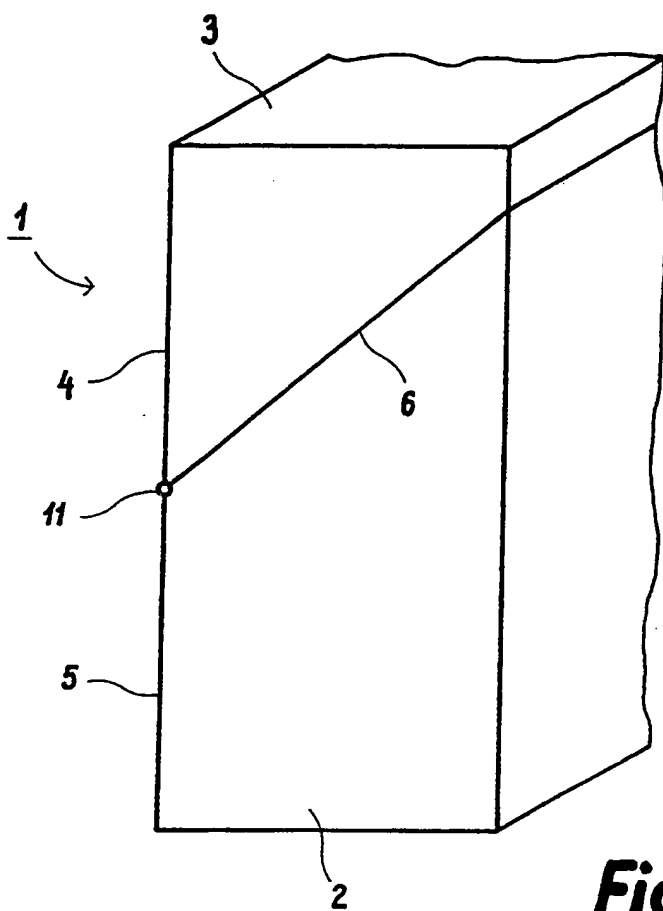


Fig. 1

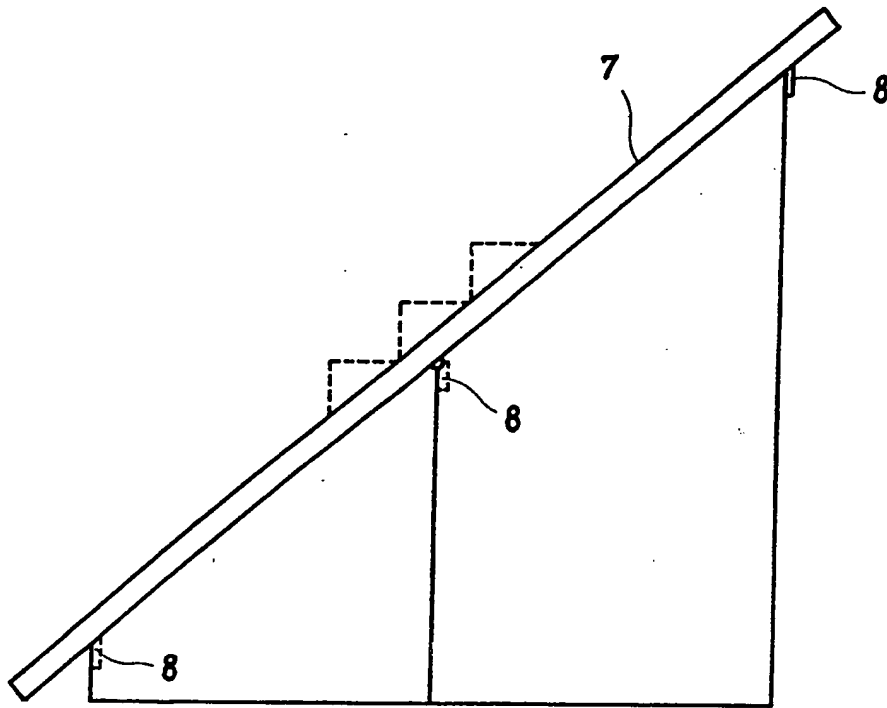


Fig. 2

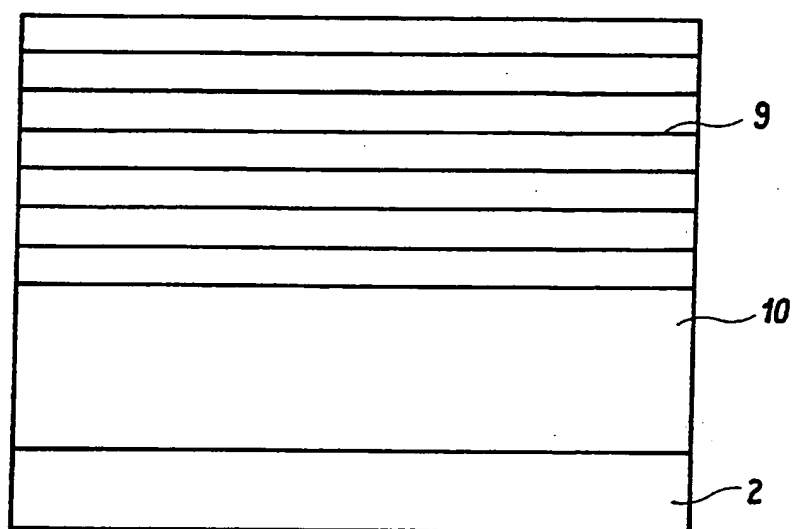


Fig. 3

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Fig. 4

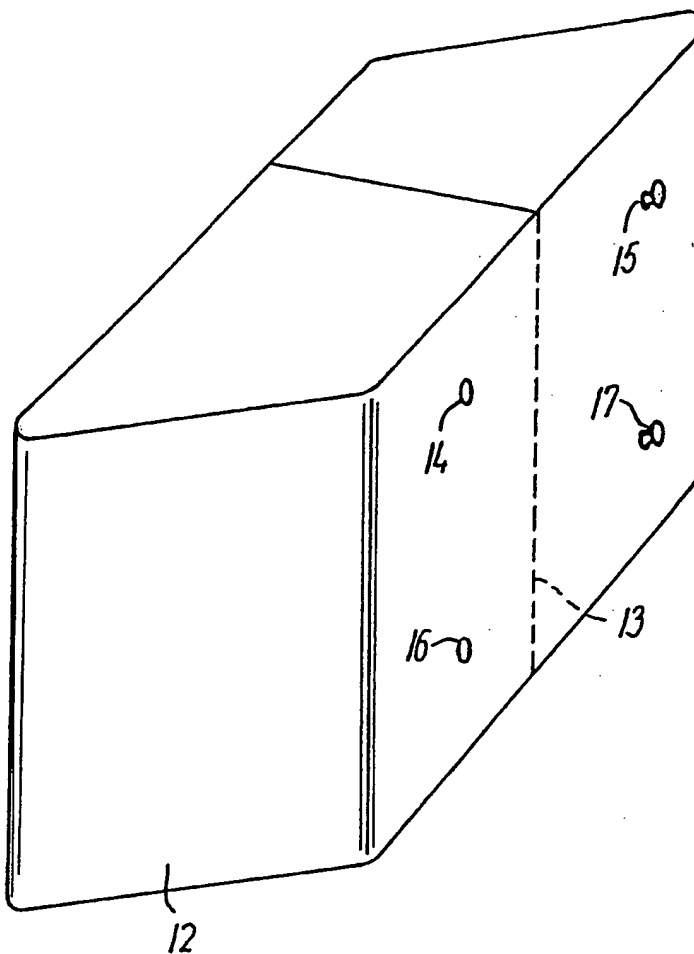
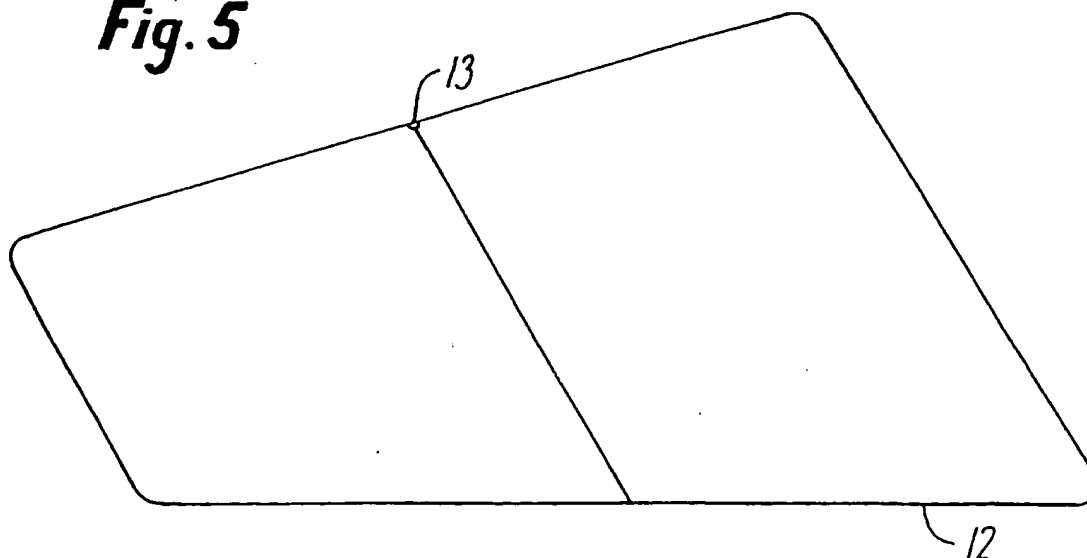


Fig. 5



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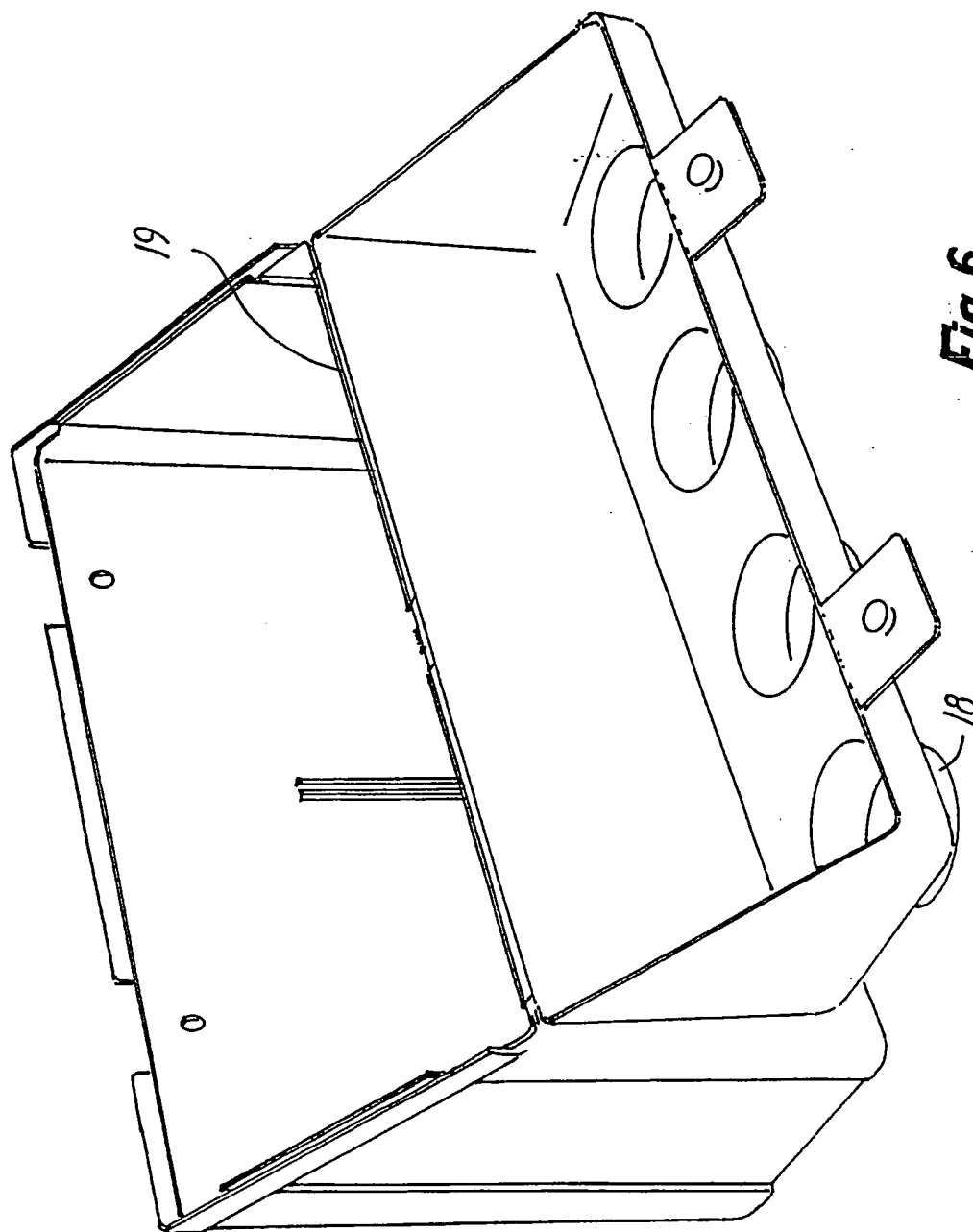


Fig. 6

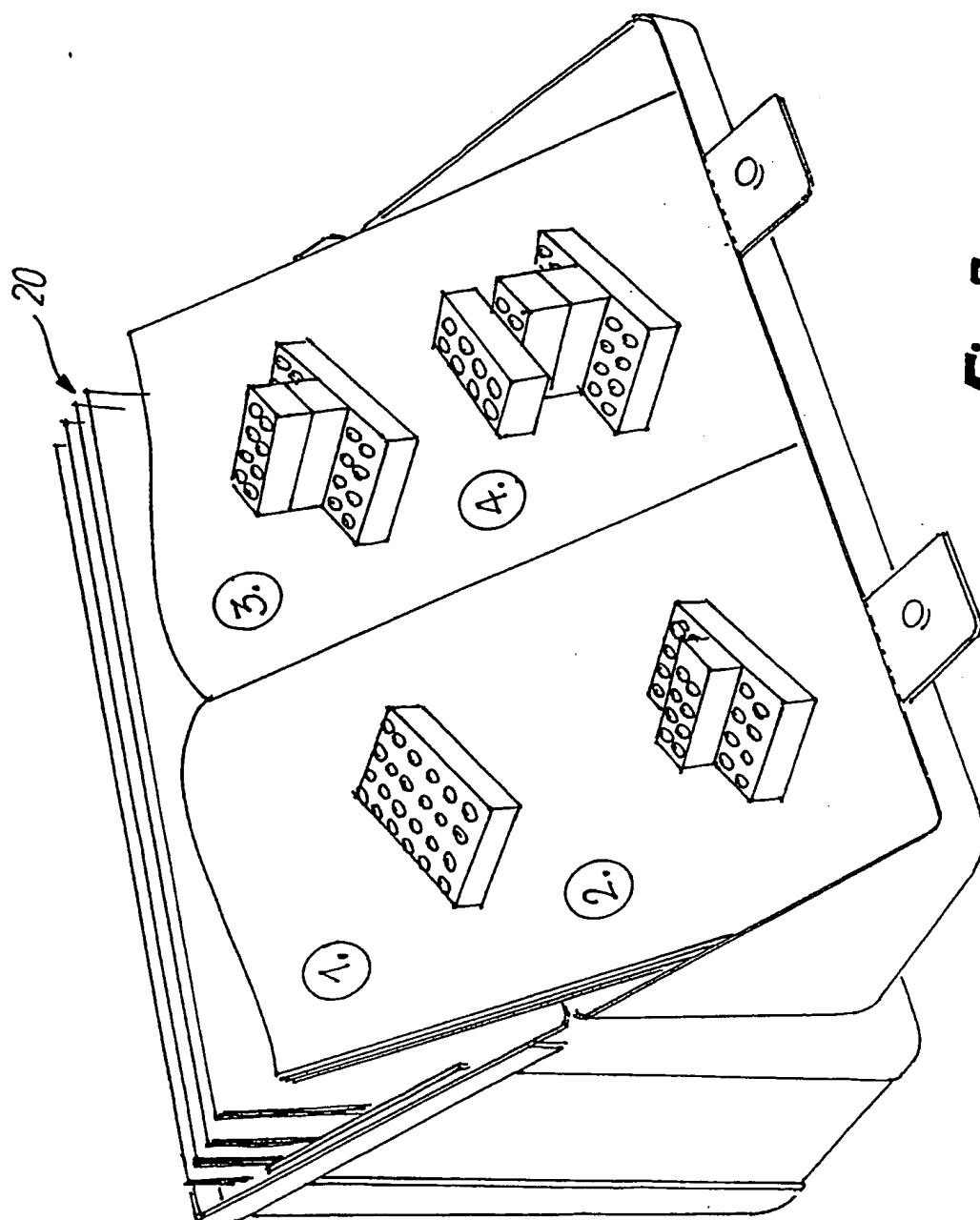


Fig. 7

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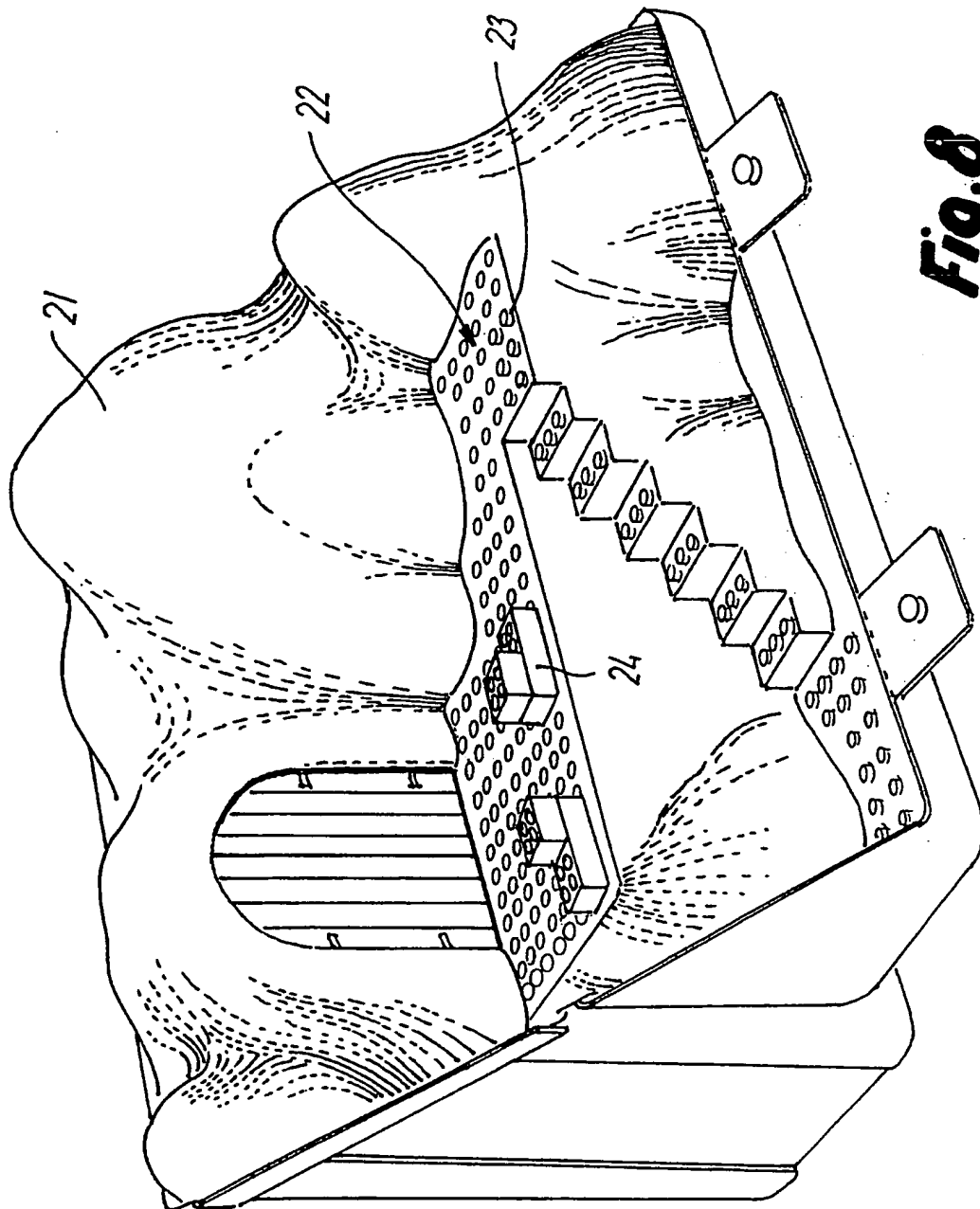
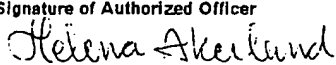
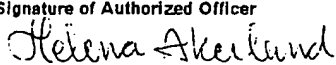
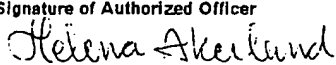


Fig. 8

INTERNATIONAL SEARCH REPORT

International Application No PCT/DK 90/00246

I. CLASSIFICATION OF SUBJECT MATTER (If several classification symbols apply, indicate all) ⁶ According to International Patent Classification (IPC) or to both National Classification and IPC IPC5: B 65 D 81/36, 43/16, A 63 H 33/00																				
II. FIELDS SEARCHED <div style="text-align: center; border-top: 1px solid black; border-bottom: 1px solid black; margin: 5px 0;">Minimum Documentation Searched⁷</div> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%; border-bottom: 1px solid black;">Classification System</th> <th style="border-bottom: 1px solid black;">Classification Symbols</th> </tr> <tr> <td style="padding: 5px; vertical-align: top;">IPC5</td> <td style="padding: 5px; vertical-align: top;">B 65 D; A 63 H</td> </tr> </table> <div style="text-align: center; border-top: 1px solid black; border-bottom: 1px solid black; margin: 5px 0;">Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in Fields Searched⁸</div> <p style="padding: 5px;">SE,DK,FI,NO classes as above</p>			Classification System	Classification Symbols	IPC5	B 65 D; A 63 H														
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IPC5	B 65 D; A 63 H																			
III. DOCUMENTS CONSIDERED TO BE RELEVANT⁹ <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 10%; border-bottom: 1px solid black;">Category *</th> <th style="border-bottom: 1px solid black;">Citation of Document,¹¹ with Indication, where appropriate, of the relevant passages¹²</th> <th style="width: 10%; border-bottom: 1px solid black;">Relevant to Claim No.¹³</th> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">X</td> <td style="padding: 5px;">US, A, 1930386 (HARRY F. FEEBACK) 10 October 1933, see the whole document --</td> <td style="text-align: center; vertical-align: top; padding: 5px;">1</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">X</td> <td style="padding: 5px;">US, A, 4736837 (BRAINARD) 12 April 1988, see the whole document --</td> <td style="text-align: center; vertical-align: top; padding: 5px;">1</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">X</td> <td style="padding: 5px;">US, A, 1770618 (R.A. LAMBERT) 15 July 1930, see the whole document --</td> <td style="text-align: center; vertical-align: top; padding: 5px;">1</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">X</td> <td style="padding: 5px;">US, A, 1663765 (R.A. LAMBERT) 27 March 1928, see the whole document --</td> <td style="text-align: center; vertical-align: top; padding: 5px;">1</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">X</td> <td style="padding: 5px;">US, A, 3752531 (JONES) 14 August 1973, see the whole document --</td> <td style="text-align: center; vertical-align: top; padding: 5px;">1</td> </tr> </table>			Category *	Citation of Document, ¹¹ with Indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³	X	US, A, 1930386 (HARRY F. FEEBACK) 10 October 1933, see the whole document --	1	X	US, A, 4736837 (BRAINARD) 12 April 1988, see the whole document --	1	X	US, A, 1770618 (R.A. LAMBERT) 15 July 1930, see the whole document --	1	X	US, A, 1663765 (R.A. LAMBERT) 27 March 1928, see the whole document --	1	X	US, A, 3752531 (JONES) 14 August 1973, see the whole document --	1
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X	US, A, 3752531 (JONES) 14 August 1973, see the whole document --	1																		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>* Special categories of cited documents: ¹⁰</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"&" document member of the same patent family</p> </div> </div>																				
IV. CERTIFICATION <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border-bottom: 1px solid black; padding: 5px;"> Date of the Actual Completion of the International Search 7th January 1991 </td> <td style="width: 50%; border-bottom: 1px solid black; padding: 5px;"> Date of Mailing of this International Search Report 1991-01-11 </td> </tr> <tr> <td style="border-bottom: 1px solid black; padding: 5px;"> International Searching Authority <div style="text-align: center; margin-top: 10px;">SWEDISH PATENT OFFICE</div> </td> <td style="border-bottom: 1px solid black; padding: 5px;"> Signature of Authorized Officer <div style="text-align: center; margin-top: 10px;">  Helena Åkerlund </div> </td> </tr> </table>			Date of the Actual Completion of the International Search 7th January 1991	Date of Mailing of this International Search Report 1991-01-11	International Searching Authority <div style="text-align: center; margin-top: 10px;">SWEDISH PATENT OFFICE</div>	Signature of Authorized Officer <div style="text-align: center; margin-top: 10px;">  Helena Åkerlund </div>														
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III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category *	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No
X	US, A, 2261605 (BRUCE BURGESS SMITH) 4 November 1941, see the whole document --	1
X	US, A, 3240325 (E.W. BROMSTEDT, JR) 15 March 1966, see the whole document --	1
A	US, A, 626141 (EMORY J. CARTER) 30 May 1899, see the whole document --	1
A	DK, B, 140472 (DART INDUSTRIES INC.) 10 September 1979, see the whole document --	1
A	FR, A5, 2149981 (KLAMER REUBEN BENJAMIN) 30 March 1973, see the whole document -- -----	1

**ANNEX TO THE INTERNATIONAL SEARCH REPORT
ON INTERNATIONAL PATENT APPLICATION NO.PCT/DK 90/00246**

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.
The members are as contained in the Swedish Patent Office EDP file on **90-11-28**
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A- 1930386	33-10-10	NONE	
US-A- 4736837	88-04-12	NONE	
US-A- 1770618	30-07-15	NONE	
US-A- 1663765	28-03-27	NONE	
US-A- 3752531	73-08-14	NONE	
US-A- 2261605	41-11-04	NONE	
US-A- 3240325	66-03-15	NONE	
DK-B- 140472	79-09-10	NONE	
FR-A5- 2149981	73-03-30	AT-B- 327753	76-02-25
		AU-B- 468212	76-01-08
		AU-D- 4472372	74-02-07
		BE-A- 787314	73-02-08
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		CH-A- 558193	75-01-31
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